

LIGHTWEIGHT NATIVE METHOD INVOCATION INTERFACE FOR JAVA COMPUTING ENVIRONMENTS

ABSTRACT OF THE DISCLOSURE

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Improved techniques for invocations of native methods in Java
computing environments are disclosed. The techniques can be implemented
in Java computing environments to facilitate efficient use of methods
(functions or subroutines) written in programming languages other than Java
10 (e.g., C, C + +, etc.). As such, the techniques are highly suitable for use by
virtual machines operating with relatively less memory and/or computing
power (e.g., embedded systems). A lightweight native method invocation
interface can be implemented to provide direct access to Java parameters on
the execution stack. In addition, the lightweight native method invocation can
15 include macro instructions that operate efficiently to convert the Java
parameters into native parameters. Thus, the lightweight native method
invocation can significantly reduce the overhead associated with conventional
Java native method invocation techniques. As a result, performance of virtual
machines, especially those operating with relatively less memory and/or
20 computing power, can be improved.